

REMARKS

i. Status of the claims

Claims 1, 2, 14-29, 46, and 47 are pending. Claims 14-16, 19-29, and 47 stand withdrawn. Claims 3-13 and 30-45 were previously canceled. Applicants have deleted the phrase, “naturally occurring,” from subsection (b) of claim 1 and have also amended claim 1 for the reasons that follow below.

ii. Claim 1 is enabled for a protein having the amino acid sequence of SEQ ID NO. 1, as well as for variants that are at least 95% identical in sequence, because the specification teaches which domains of this Ets protein confer DNA binding activity.

Claims 1 and 17 are rejected under 35 U.S.C. § 112, first paragraph because, allegedly, the specification “does not reasonably provide enablement for the use of any protein that is 90% identical to SEQ ID NO. 1 or any biological fragment of SEQ ID NO. 1 or immunological fragment of SEQ ID NO. 1” (Office Action at page 2).

To this end, Applicants have amended claim 1 to delete recitation to biological and immunological fragments and have amended the percentage identity to recite “95%” instead of “90%.” Support for the latter amendment can be found at page 18, lines 15-18.

Applicants also note the Office’s perception that “[T]here is no description in the specification as to which amino acid residues could be changed and maintain [the] required DNA binding activity” (Office Action at page 2). Applicants respectfully disagree with that sentiment and point to the section of the specification from page 17, line 12 to page 18, line 14, where they precisely characterize the protein having the amino acid sequence of SEQ ID NO. 1. For instance, Applicants teach that the claimed protein has 335 residues and identify various glycosylation and phosphorylation sites, motifs, conserved regions of the protein, and the positions of Ets domain signatures.

With regard to the latter, Applicants teach, at page 2, lines 12-13 of the specification, that the “Ets domain binds to a 10-nucleotide motif with an invariant purine trinucleotide core” and that “variations in the nucleotides flanking the core may contribute to the specificity of Ets binding.”

Accordingly, Applicants teach that L251 to L259 and R297 to Y312 of SEQ ID NO. 1 are motifs, specific to Ets domains, and are therefore responsible for conferring DNA binding activity. For this reason, Applicants contend that there is sufficient support in the application for variants that

differ in sequence to SEQ ID NO. 1 by 5%, *i.e.*, there is sufficient support for a protein that has at least 319 amino acid residues of the 335 residues of SEQ ID NO. 1. Since Applicants identified the position and amino acid sequence of the motifs and domains required for DNA binding activity, the skilled artisan would know which amino acid residues are amenable to change without disturbing or ameliorating the DNA binding activity of that variant protein.

The Examiner acknowledges that the specification is enabled for SEQ ID NO. 1 and, since Applicants have identified those protein regions that can accommodate the recited 5% divergence in sequence, as well as those important for DNA binding activity, Applicants assert that present claim 1 and 17 are enabled. Accordingly, Applicants respectfully request that this rejection be withdrawn.

IV. Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application. The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5444
Facsimile: (202) 672-5399

By V.S. Mohan-Ram

Vid S. Mohan-Ram
Patent Agent
Registration No. 55,459